STUDY OF LIGHT INTENSITY AND SPECTROSCOPY OF AN INEXPENSIVE SINGLE BUBBLE SONOLUMINESCENCE EXPERIMENT, Jeremy J Peshl, Dr. Karen Gipson*, Grand Valley State University, Department of Physics,Allendale, MI 49401 gipsonk@gvsu.edu

Single Bubble Sonoluminescence (SBSL) is the phenomena by which a bubble is levitated in a liquid medium and forced to oscillate using sound waves, which can make the bubble collapse violently enough to produce light. Various material parameters affect the light produced by these bubbles. This project provided an alternative methodology for the production of SBSL, as well as for data acquisition. Intensity measurements were obtained using a photomultiplier tube and spectral measurements were obtained using a fiber-optic spectrometer. The study focused on the effects of temperature and different liquid compositions on the intensity of the light produced by a SBSL bubble, as well as the spectrum produced by a sonoluminescing bubble. The results may contribute to a better understanding of the effects of material parameters on the light emission.